AMENDED CLAIMS

1. (Currently Amended) Method for the monitoring of an environment by use of one or more pairs of imagers, each imager monitoring said environment from a different angle of view, comprising the steps of:

a) providing one or more pairs of imagers, wherein at least one of said pairs comprises an optical imager and at least one of said pairs comprises a Forward Looking Infra Red (FLIR) imager;

b) positioning both imagers of said one or more pairs of imagers along a common vertical line such that they both capture a same object at a different angle of view, in order to perform a stereoscopic observation of objects;

c) defining and storing in a memory, programs for processing, in real-time, photographic data to be obtained from the stereoscopic observation of objects by use of said one or more pairs of ~~optical and/or thermal~~ imagers~~, relatively positioned along a common vertical line, for identifying said objects and determining whether they are dangerous~~;

d) determining and storing parameters according to which the observation of ~~the~~ a controlled space or sections thereof is effected;

e) carrying out an unmanned, real-time vertical stereoscopic ~~photographic~~ observation of ~~the~~ said controlled space or sections thereof, according to the ~~aforesaid~~ observation parameters; ~~and~~

f) determining the distance to said observed objects from said one or more pairs of imagers;

g) evaluating the size of each of said observed objects;

h) classifying a type and degree of danger of each of said observed objects by jointly processing said real-time ~~the digital~~ data obtained from ~~representing~~ said stereoscopic observation with respect to the angle of view of each of said imagers, the path and size of, and distance from, said observed objects, and said stored danger parameters; and

i) providing an indication when one or more of said observed objects is approaching said controlled space and has been classified as having a sufficiently high degree of danger so as to be liable of damaging an authorized body within said controlled space.

~~optical and thermal photographs, to determine whether possible dangerous objects have been detected, and if so, classifying said objects according to the stored danger parameters.~~

2. (Currently Amended) Method according to claim 1, further comprising:

a) changing the sections of ~~the~~ said stereoscopic ~~photographic~~ observation so as to monitor the path of any detected dangerous objects;

b) receiving and storing the data defining the positions and the foreseen future path of all authorized bodies;

c) extrapolating the data obtained by monitoring the path of any detected dangerous objects to determine an assumed future path of said objects; and

d) comparatively processing said assumed future path with the foreseen future path of all authorized bodies, to determine the possible danger of collision or intrusion.

3. (Previously Presented) Method according to claim 2, further comprising determining an action on dangerous objects that will eliminate the danger of collision, intrusion or damage.

4. (Original) Method according to claim 3, wherein the action is the destruction of the dangerous object.

5. (Original) Method according to claim 3, wherein the action is change in their assumed future path the dangerous object.

6. (Original) Method according to claim 2, further comprising determining an action on an authorized body that will eliminate the danger of collision, intrusion or damage.

7. (Currently Amended) Method according to claim 6, wherein the action is a delay in ~~the~~ir landing or take-off of ~~the~~ an aircraft or a change of ~~the~~ir landing or take-off path of said aircraft.

8. (Currently Amended) Method according to claim 1, ~~further comprising giving~~wherein the indication is an alarm~~s~~ signaling the presence and nature of any dangerous objects, the danger of collisions and possible desirable preventive actions.

9. (Currently Amended) Method according to claim 1, wherein the stereoscopic ~~photographic~~ observation is carried out by performing the steps of:

a) modifying the angle of one or more ~~photographic devices~~imagers;

b) ~~photographing~~ capturing one or more ~~photos~~ images with said of one or more imagers~~photographic device~~;

c) processing said ~~photographed~~ captured one or more ~~photos~~ images by a computerized system; and

d) repeating steps a) to c).

10. (Currently Amended) Method according to claim 9, wherein the stereoscopic ~~photographic~~ observation is carried out as a continuous scan or segmental scan.

11. (Currently Amended) Method according to claim 1, wherein the processing of the real-time photographic ~~digital~~ data comprises the steps of:

a) setting initial definition for the stereoscopic ~~photographic~~ observation and for the processing of the data of said stereoscopic ~~photographic~~ observation;

b) storing in the memory the data that represent the last ~~photographed~~ captured one or more ~~photos~~ images at a specific angle of the ~~photographic devices~~imagers; and

c) processing said data for detecting suspected objects, by performing, firstly, pixel processing and secondly, logical processing; and

d) deciding whether said suspected object is a dangerous object.

12. (Currently Amended) Method according to claim 11, wherein the pixel processing comprises the steps of:

a) ~~Mathematically~~ mathematically processing each pixel in a current photo for detecting suspected objects; and

~~a.~~b) ~~Whenever~~ whenever a suspected object is detected, ~~at least two photographic devices, being positioned vertically one above the other in~~

~~distance from each other, provides~~ providing ~~photos~~ images at the same time period and of the same monitored section by means of both imagers of the one or more pairs of imagers~~,~~ for generating ~~data regarding said suspected object from at least said two photographic devices, said generated data is a 3~~three~~ D~~ dimensional data related to said suspected object.

13. (Currently Amended) Method according to claim 12, wherein whenever the pixel processing detects a moving object, ~~it~~ further comprise~~s~~ing the steps of:

a) comparing the current ~~photo~~ images to an average ~~photo~~ image generated from the previous stored ~~photos~~images, said previous stored ~~photos~~ images and said current ~~photo~~image ~~was~~ being ~~photographed~~ captured at the same ~~photographic device~~imager angle;

b) generating a comparison ~~photo~~ image from the difference in the pixels between said average ~~photo~~ image said current ~~photo~~image, each pixel in said comparison ~~photo~~ image represent~~s~~ing an error value;

c) comparing each error value to a threshold level, said threshold level ~~is~~ being dynamically determined to each pixel in the ~~photo~~ image matrix statistically according the previous pixel values stored in the memory as a statistic database;

d) whenever a pixel value in said comparison ~~photo~~ image exceeds said threshold level, generating a logic matrix in which the location of said pixel value is set to a predetermined value; and

e) upon completing comparing each error value to said threshold level, for the entire current ~~photos~~images, transferring said generated logic matrix to the logic process stage.

14. (Currently Amended) Method according to claim 12, wherein whenever the pixel processing detects a static object, ~~it~~ further comprise~~s~~ing the steps of:

a) generating an average ~~photo~~ image from the current one or more ~~photos~~images;

b) generating a derivative matrix from said average ~~photo~~ image for ~~emphasis~~ emphasizing relatively small objects at each ~~photo~~ image from said one or more ~~photo~~images, which might be potential dangerous objects;

c) storing said derivative matrix in the memory as part of ~~a photo~~an image database, and comparing said derived matrix with a previous derivative matrix stored in said memory as part of said ~~photo~~ image database, said previous derivative matrix ~~is~~ being derived from one or more images ~~photos~~ that was taken from the exact ~~photographic device~~imager angle as of said average image~~photo~~;

d) ~~From~~ from the comparison, generating an error image~~photo~~, wherein each pixel in said error image ~~photo~~ represents the error value between said derivative matrix and said previous derivative matrix;

e) comparing the value of each pixel from said error image ~~photo~~ to a threshold level, said threshold level ~~is~~ being dynamically determined to each pixel in the error image ~~photo~~ statistically according the previous pixel values stored in the memory as a part of a statistic database;

f) whenever a pixel value in said error image ~~photo~~ exceeds said threshold level, generating a logic matrix in which the location of said pixel value is set to a predetermined value; and

g) upon completing comparing each error value to said threshold level, for the entire current images~~photos~~, transferring said generated logic matrix to the logic process stage.

15. (Previously Presented) Method according to claim 11, wherein the logic processing comprises the steps of:

a) measuring parameters regarding the pixels in the logic matrix;

b) comparing said measured parameters to a predetermined table of values stored in the memory, whenever said measured parameters equal to one or more values in said table, the pixels that relates to said measurement are dangerous objects.

16. (Previously Presented) Method according to claim 15, wherein the parameters are selected from the group consisting of the dimension of an adjacent group of pixels, the track that one or more adjacent pixels created in the logic matrix, direction, speed, size and location of an object that is created from a group of pixels.

17. (Cancelled)

18. (Currently Amended) Method according to claim ~~17~~1, wherein both imagers of a pair of imagers~~the cameras positioned with the same view angle~~ are located at a distance of 0.5 to 50 meters from each other.

19. (Cancelled)

20. (Currently Amended) Method according to claim ~~18~~1, further comprising~~wherein the cameras positioned with same view angle are being~~ rotated~~ing thus their view angle is changed~~both imagers of a pair of imagers and simultaneously changing their corresponding angle of view.

21. (Currently Amended) Method according to claim ~~18~~20, further comprising providing at least one encoder and at least one reset sensor for determining the angle of each ~~camera~~imager, said encoder and reset sensor ~~are~~ being provided to each axis that rotates an ~~camera~~imager.

22. (Currently Amended) Method according to claim 21, wherein the reset sensor provides the initiation angle of the ~~camera~~ imager at the beginning of the scanning of a sector and the encoder provides the current angle of the ~~camera~~ imager during the scanning of the sector.

23. (Original) Method according to claim 1, further comprising the steps of:

a) generating a panoramic image and a map of the monitored area by scanning said area, said scanning being performed by rotating at least a pair of distinct and identical imagers around their central axis of symmetry;

b) obtaining the referenced location of a detected object by observing said object with said imagers, said location being represented by the altitude, range and azimuth parameters of said object; and

c) displaying the altitude value of said object on said panoramic image and displaying the range and the azimuth of said object on said map.

24. (Currently Amended) Method according to claims 23, wherein the imagers are ~~photographic devices~~ selected from the group consisting of: optical imagers, thermal imagers, CCD cameras, ~~or~~ CMOS based cameras, ~~or~~ and Forward Looking Infra Red (FLIR) cameras.

25. (Original) Method according to claim 23, wherein the distance, in an angle, between each two imagers is between 0.5 to 50 meters.

26. (Original) Method according to claim 23, wherein the imagers are not identical and do not share common central axis of symmetry or of optical magnification but have at least an overlapping part of their field of view.

27. (Previously Presented) Method according to claim 1, further comprising documenting the activities of the wildlife and other dangerous objects, for preventing and reducing from said wildlife and said other dangerous objects to appear at the monitored area.

28. (Currently Amended) Apparatus for the monitoring an environment by use of one or more pair of imagers, each imager monitoring said environment from a different angle of view, comprising:

a) one or more pairs of ~~optical and/or thermal~~ imagers for obtaining real-time photographic data of a~~, relatively positioned along a common vertical line for carrying out photographic/thermal observation of the~~ controlled space or sections thereof, wherein both imagers of said one or more pairs of imagers are positioned along a common vertical line and are vertically spaced, for performing an unmanned vertical stereoscopic observation of objects by capturing a same object at a different angle of view;

b) memory means in which are stored boundary parameters of a controlled space or sections thereof, danger parameters of observed objects and real-time photographic data processing instructions; and

c) a processing unit, operable to:

i. jointly process real-time photographic data obtained from said stereoscopic observation, with respect to the angle of view of each of said imagers and according to said instructions;

ii. determine the distance to said observed objects from said one or more pairs of imagers;

iii. evaluate the size of each of said observed objects;

iv. classify a type and degree of danger of each of said observed objects according to said processed photographic data, the path and size of, and distance from, said observed objects, and said stored danger parameters; and

v. provide an indication when one or more of said observed objects is approaching said controlled space and has been classified as having a sufficiently high degree of danger so as to be liable of damaging an authorized body within said controlled space,

wherein at least one of said pairs comprises an optical imager and at least one of said pairs comprises a Forward Looking Infra Red (FLIR) imager.

~~b) a set of motors for changing the sections of the said photographic observation;~~

~~c)elaborator means for jointly processing the digital data representing said optical and thermal photographs, to determine whether possible dangerous objects have been detected, and if so, classifying said objects according to the stored danger parameters,~~

~~processing the digital data representing the photographs taken by said photographic devices;~~

~~d)memory means for storing programs for processing, in real time, data obtained from the observation of objects by said imagers, and for identifying objects and determining whether they are dangerous.~~

29. (Currently Amended) Apparatus according to claim 28, wherein the ~~photographic~~ imagers are photographic devices selected from the group consisting of: ~~devices comprise one or more~~ CCD or CMOS cameras, ~~and/or one or more~~ infrared cameras~~.~~, and Forward Looking Infra Red (FLIR) cameras.

30. (Currently Amended) Apparatus according to claim 28, wherein both imagers of a pair of imagers are ~~the distance, in an angle, between each two cameras~~ located on the same pole ~~i~~and are located at a distance of 0.5 to 50 meters ~~s between~~ 0.5 to 50 meters from each other.

31. (Currently Amended) Apparatus according to claim 28, wherein both imagers of a pair of imagers are ~~in which the photographic devices are at least a pair of distinct and~~ identical ~~imagers~~.

32. (Currently Amended) Apparatus according to claim 28, wherein both imagers of a pair of imagers are~~in which each photographic device is~~ provided with a different lens.

33. (Previously Presented) Apparatus according to claim 28, further comprising:

a) elaborator means for obtaining the referenced location of a detected object in said controlled space, said location being represented by the altitude, range and azimuth parameters of said object;

b) means for generating a panoramic image and a map of the monitored area;

c) means for displaying the altitude value of said object on said panoramic image and means for displaying the range and the azimuth of said object on said map.

34. (Currently Amended) Apparatus according to claim 33, ~~in which~~wherein the means for displaying the monitored area ~~are using~~comprise three-dimensional software graphics ~~where~~ for indicating the location of each detected object ~~is indicated~~ as a three-dimensional image.

35. (Currently Amended) Apparatus according to claim 33, ~~in which~~wherein the elaborator means ~~are~~ comprise one or more dedicated algorithm installed within ~~the~~ a computerized system.

36. (Currently Amended) Apparatus according to claim 28, further comprising a laser range finder being electrically connected to ~~the~~ a computerized system for

measuring the distance of a detected object from said laser range finder, said laser range finder transfers to said computerized system data representing the distance from a detected object, thereby aiding said computerized system to obtain the location of said detected object.

37. (Currently Amended) Method according to claim 1, further comprising procuring, adjourning and storing in a memory files representing ~~the~~ a background space.

38. (New) Apparatus according to claim 28, further comprising a set of motors for displacing the imagers, for changing the controlled space or sections thereof, and for thereby generating the real-time photographic data.